



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,506	06/13/2005	Simon Yau Leung Ching	114.1008US	6672
23280 7590 11/14/2008 Davidson, Davidson & Kappel, LLC 485 7th Avenue 14th Floor New York, NY 10018			EXAMINER FRITCHMAN, REBECCA M	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 11/14/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/530,506	Applicant(s) CHING, SIMON YAU LEUNG	
	Examiner REBECCA FRITCHMAN	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/06/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Summary

1. This is the initial Office action based on the 10/530506 application filed on 06/13/2005.
2. Claims 1-15 are pending and have been fully considered.
3. The preliminary amendment filed 04/06/2005 has been entered.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2 & 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what the applicant means by "afluorescing". It appears that applicants intend "a fluorescing."

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

Art Unit: 1797

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being obvious over NAGUIB in US 6060324 in view of KATSILOMETES in US 5340714.

With respect to Claims 1, 2 and 6, NAGUIB teaches of a fluorometric assay for measuring antioxidant activity (column 1, lines 11-14). NAGUIB does not teach of contacting the sample with a fluorescing porphyrin.

KATSILOMETES, however teaches of the use of nonmetallic molecules and signal solutions in chemiluminescent reactions, specifically the use of porphyrins which will fluoresce (column 3, lines 23-35). It would have been obvious to modify the fluorometric assay for measuring antioxidant activity of NAGUIB by substituting the fluorescing porphyrins of KATSILOMETES due to the advantages that the porphyrin systems have over enzyme-mediated

Art Unit: 1797

systems in that they have faster kinetics resulting in peak light output within seconds(column 2, lines 45-53). Also, it is commonly known in the art that porphyrin molecules fluoresce.

With respect to Claim 3, KATSILOMETES teaches of the use of uroporphyrin I (column 4, lines 57-60).

With respect to Claim 4, KATSILOMETES teaches of the use of uroporphyrin I (column 4, lines 57-60).

With respect to Claim 5, KATSILOMETES teaches of the use of uroporphyrin I dihydrochloride (column 10, lines 53-66).

With respect to Claim 7, NAGUIB also teaches of measuring fluorescence of a compound under conditions suitable for measuring antioxidant status, specifically, the use of an azo or peroxide type radical initiator to generate oxygen radicals (column 3, lines 48-54).

With respect to Claim 8, NAGUIB also teaches of measuring fluorescence of a compound under conditions suitable for measuring antioxidant status, specifically, the use of an azo or peroxide type radical initiator to generate oxygen radicals(column 3, lines 48-54), specifically the use of 2,2'-azobis-2,4-dimethyl valeronitrile(column 3, lines 55-67).. NAGUIB does not teach of the use of a dihydrochloride. KATSILOMETES teaches of the use of uroporphyrin I dihydrochloride (column 10, lines 53-66) as a fluorescent reagent. It would have been obvious to modify the fluorometric assay for measuring antioxidant activity of NAGUIB with the fluorescing porphyrins of KATSILOMETES due to the advantages that the porphyrin systems have over enzyme-mediated systems in that they have faster kinetics resulting in peak light output within seconds(column 2, lines 45-53). Also, it is commonly known in the art that porphyrin molecules fluoresce.

Art Unit: 1797

With respect to Claim 9, it is inherent in the art to contact the compound with a surfactant, emulsifier or solubilizer to aid in the mixing of reaction components.

With respect to Claim 10, it is inherent to use polyoxyethylene alcohol as a surfactant.

With respect to Claim 11, it is inherent to use polyoxyethylene ether as the polyethylene alcohol as the surfactant.

With respect to Claim 12, NAGUIB teaches of the use of a fluorometer in measuring antioxidant status (Abstract).

With respect to Claim 13, NAGUIB teaches of a fluorometric assay for measuring antioxidant activity (column 1, lines 11-14). NAGUIB does not teach of contacting the sample with a fluorescing porphyrin. Nor does NAGUIB specifically teach the incorporation of such fluorescing porphyrins into a kit.

KATSILOMETES, however teaches of the use of nonmetallic molecules and signal solutions in chemiluminescent reactions, specifically the use of porphyrins which will fluoresce (column 3, lines 23-35). It would have been obvious to modify the fluorometric assay for measuring antioxidant activity of NAGUIB with the fluorescing porphyrins of KATSILOMETES due to the advantages that the porphyrin Systems have over enzyme-mediated systems in that they have faster kinetics resulting in peak light output within seconds (column 2, lines 45-53). Also, it is commonly known in the art that porphyrin molecules fluoresce. It also would be obvious to combine the reagents for the assay method into a ready-for-use kit with instructions so that an unskilled worker could perform the test without undue experimentation.

With respect to Claim 14, NAGUIB teaches of the use of a fluorometer in measuring antioxidant status (Abstract).

Art Unit: 1797

With respect to Claim 15, NAGUIB teaches of a fluorometric assay for measuring antioxidant activity (column 1, lines 11-14). NAGUIB does not teach of contacting the sample with a fluorescing porphyrin. NAGUIB also does not teach providing the fluorescing porphyrins in a ready-to-use kit.

KATSILOMETES, however teaches of the use of nonmetallic molecules and signal solutions in chemiluminescent reactions, specifically the use of porphyrins which will fluoresce (column 3, lines 23-35). It would have been obvious to modify the fluorometric assay for measuring antioxidant activity of NAGUIB with the fluorescing porphyrins of KATSILOMETES due to the advantages that the porphyrin systems have over enzyme-mediated systems in that they have faster kinetics resulting in peak light output within seconds (column 2, lines 45-53). Also, it is commonly known in the art that porphyrin molecules fluoresce. It would have been obvious to one of ordinary skill in the time of the art to compare the fluorescence to a standard. It also would be obvious to combine the reagents for the assay method into a ready-for-use kit with instructions in order to make a portable system for the measurement.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to REBECCA FRITCHMAN whose telephone number is (571)270-5542. The examiner can normally be reached on Monday- Friday 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

R.F.

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797